FINTECH:

THE NEXT STEP IN

BANKING AND FINANCE

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ABSTRACT

Throughout this dissertation, we will analyse the major changes that digital revolution has meant to the financial world, and how this technological improvements have created new financial platforms which operate separately from the banking sector.

We will detailedly examine the segment of financial Startups and how do they work by examining one of the most important Spanish Fintech in the crowdlending market.

Overall, it is important to point out the influence of this technological developments for the society and the repercussion these have in traditional banking, which has experienced a big transformation that is allowing it to compete with this new financial players.

KEYWORDS

Digital revolution, technological competitors, Fintech, crowdlending, traditional banking.

INDEX

1. INTRODUCCIÓN.

My motivation for choosing this topic, which focuses on the emergence of new technologies in the financial market, is due to the effect that this is provoking on the foundations of traditional banking and, consequently, in the traditional financial system as it is known to date.

As this is a very recent phenomenon, there is a great level of ignorance towards this subject by the majority of the society. Although clients operate with banks using their online mechanisms, they are more afraid of using other alternative financing mechanisms to the traditional banking sector, either because of lack of knowledge or lack of confidence.

This dissertation provides an analysis of the general panorama of banking and multichannel innovation in Spain and Europe. As a result of the change of philosophy and in response to the disruption caused by Internet, entities have adapted their models to new ways of marketing their products and have strengthened their possibilities.

This study will be also conducted by analysing those companies with a high technological component that have been introduced in the financial industry and are known as "Fintech".

Fintech shows a long-term continuity. Therefore, it is expected that it will provoke a progressive change in the financial habits of society that is gradually internalising these new business patterns and is establishing the basis of this change. Benjamí Puigdevall, CEO of ‘La Caixa´ states that "We are moving from the ´branch first´ concept to the ´mobile first´ concept" (Puigdevall, 2015).

Also, throughout the development of this dissertation, we will observe how statistics invite to think that whoever is not present in this new way of doing business, will not have guarantees of survival. "All the rules of the banking business have been broken. We are only at the beginning of the transformation, and in a few years a bank will have little or nothing to do with what we know today "(Navarro, 2015).

2. CURRENT BANKING SITUATION.

Due to the amount of big changes taking place in the world, the financial sector must reinvent itself. The changes that have already been made show that in the future everything will be different for financial institutions. They must be able to take advantage of these changed as they may represent great opportunities to overcome the blows caused by the financial crisis.

The report of the PwC´s Financial Sector Center and IE Business School: "Banking, at the crossroads. The future of the Spanish financial sector in a global world", specifies seven points that are changing regarding financial institutions with special mention to the environment of innovation and technological change in banking.

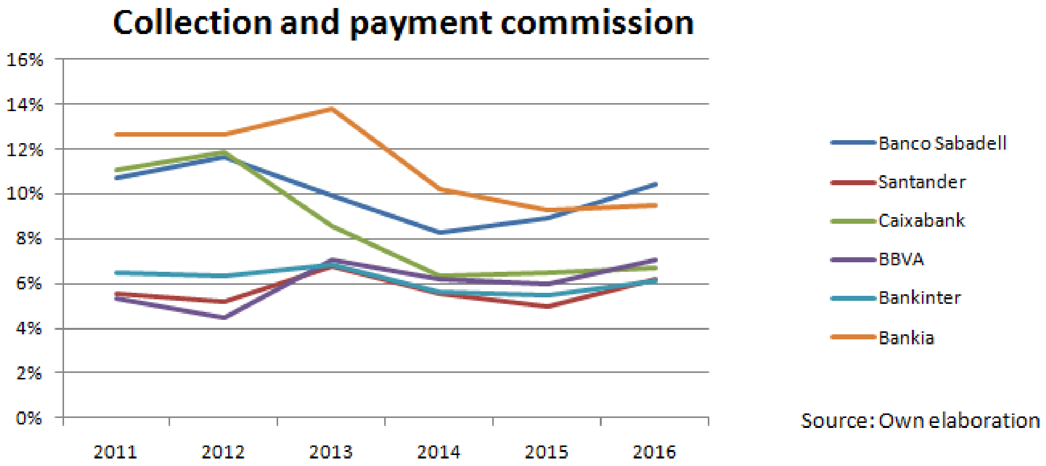
Within this economic section we will explain evolution of revenue derived from commissions of charges and payments. This sector has been deeply damaged by the introduction of these new technologies, which gives the client a big self-management capacity.

2.1. Evolution of revenue derived from commissions of collection and payments.

The interest margin has been, and will continue to be, under pressure for some years because of the very low interest rates in developed economies. Understanding commissions income, which is generally the second source of income for banks, its evolution and breakdown, helps to identify the determinants of banks' profitability and present and future opportunities as well as threats for this source of income.

Collection and payment services that include credit and debit card commissions, checking accounts, invoices, transfers and other payment orders, checks and other items used to be the most important fee income of Spanish banks, accounting for 60% of the total income revenue. At the moment, they only represent a third part, being surpassed by the commissions provided by the sale of non-banking financial products. (BBVA Report, 2015).

Figure 1: Collection and payment commission

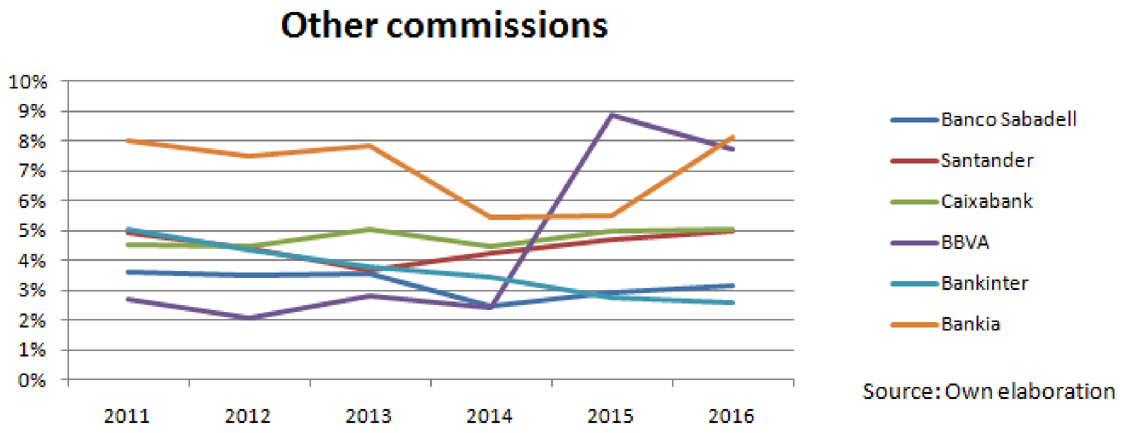


Own elaboration through data obtained from the annual reports of the bank at the CNMV.

This graphic (*Figure 1*) shows the evolution of the collection and payment commissions for the banks listed in the IBEX35 index. As it can be seen in the above graph, there is a significant decline during the period between 2013 and 2015. This decline is due to the emergence of new technological competitors who broke into this sector providing a number of advantages that traditional banking did not offer to the customer, hogging this market. From 2015, there was a rebound due to the modernization of traditional banking, which introduced some of the technological innovations offered by its competitors in its system. According to Javier Rey, general manager of Banca y Seguros of Tecnocom, "Banking has won the first battle by making the telecom operators' market relevance in this market minimal, despite of the past few years' fears. However, it has to avoid losing the disintermediation of the operations of means of payment because it would lose knowledge about the client "(Rey, 2015).

Therefore, it can be said that the main traditional banking revenue income made through collection and payment commissions has been replaced by the entrance of commissions coming from other areas.

Figure 2: Other commissions



Own elaboration through data obtained from the annual reports of the bank at the CNMV.

This graphic (*Figure 2*) shows the income obtained by banks through other commissions for the banks listed in the IBEX35 index.

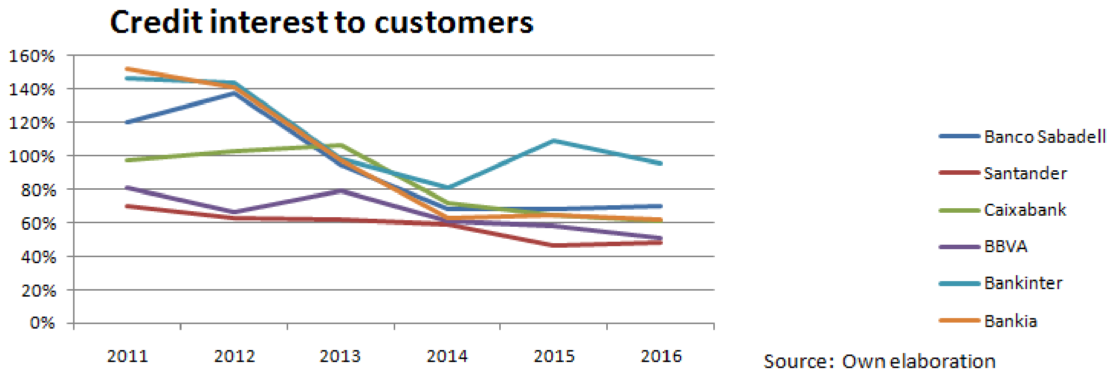
2.2. Evolution of revenue derived from interest rates.

In order to fight the narrowing of margins and to defend its profit, the Spanish banking sector has made many efforts. Between 2013 and 2015, banks have reduced more intensely the interest they pay on deposits than the interests they receive on loans. According to the data provided by the European Central Bank (ECB) in its 2015 Annual Report, no other European country has reduced the profitability of interest during this period as Spain did.

According to this institution, in 2013, the average interest rate on new term deposits in Spain stood at 1.55% for companies and at 1.83% for households. Two years later, they went down to 0.36% and to 0.46% respectively (2015 ECB Report).

Spanish banks are, therefore, the ones that are moving the official price cuts of money executed by the ECB to the deposits with greater magnitude.

Figure 3: Credit interest to customers



Own elaboration through data obtained from the annual reports of the bank at the CNMV.

This figure (*Figure 3*) represents the income from credit interests applied to clients by the main banking entities operating in our country.

In the graphic, it is shown that there was clear decline in this income type from 2012 until the end of 2015. This lowering of the interest of deposits and loans responds to the intention of the traditional banking sector to defend its margin of intermediation, which represents its core business. The low interest rates and the absence of a credit demand reduce their volume of business, causing a reaction of the banks to leave this scenario. (Calvo, 2016).

2.3. TECHNOLOGICAL DEVELOPMENT.

During the financial crisis period, the main concern of the bank was to demonstrate to the authorities their solvency in order to recover the traditional model that was previously applied. Throughout this period of time, the client has changed his perception of banking, due to the deterioration of assets, bank bailouts and the difficulty of financing projects.

Nowadays, the bank has managed to recover its solvency. However, traditional business has not been recovered due to the fact that it is facing a different context caused by the emergency of the new technologies.

Throughout the financial crisis, there has been a great amount of innovation, which can be developed in four vital points (Ochoa, Salas and Robredo, 2015):

- Clients are now completely used to the use of smartphones, allowing them to quickly access all kinds of financial information. This has meant a radical change in the consumption of financial services, since the client recovers the loss of power offered by traditional banking. Another benefit they obtain is the great independence and improvement of decision-making when purchasing goods and services.
- Customer dissatisfaction with traditional banking: Due to the loss of reputation of traditional banking and the appearance of new technological advances, they have begun to divide the traditional banking business, favoring the appearance of Shadow Banking (financial business not performed by companies with banking license).
- Narrowing of operating margins: As a result of the banking crisis, there was a hardening of bank regulations which caused a great cost that it is difficult to recover from considering with the current low interest rates that we find today. New competitors can easily bypass these regulations as they have cheaper structures.
- Today, banks and clients still do not speak the same language. The bank is trying to adapt to this technological revolution in order to overcome customer loss and attract new clients.

To recover the lost market against the Over The Top (OTT) companies, which base their operations and distribution models on the Internet, the bank must copy the three main factors of success of its new competitors:

1. Create and provide an excellent customer service experience, regarding management and services .
2. Social Banking, a new way of connecting with the client and of doing business through social media platforms like Facebook or Twitter.
3. Incorporation of ´big data´ in the banking business model.

Nowadays, the last factor is the one traditional banking is trying to adopt together with Cloud Computing. There can be observed a few tendencies that will mark the financial sectors´ future in the short and medium term:

2.3.1. Big data

Set of systems (databases, information repository, information processing...) that allow to process large amount of data in order to obtain more detailed customers information. Thanks to the big data, financial institutions can adjust the offer of products and services to meet the needs of clients. "Data is knowledge and knowledge is power. We have to know who are we serving and how to do it” (Gallego, 2015).

Banks are boosting big data initiatives. The main ones are divided into three areas of management: business, risk and operations.

Following, we will analyse the area of business management, which is divided by existing clients and the "non-client" (Ochoa, Salas and Robredo, 2015).

- Existing clients**:** In order to have a better knowledge of customers consumption patterns, such as what to buy, when to buy a product and where to buy it. This allows the elaboration of more personalised financial services, facilitating consumption and allowing the bank to increase its utility to the customers who will reward the bank with loyalty.
- The “non-client”: Where big data is used in three different scenarios:
    1. <u>Client from another entity:</u> With this system, a bank trying to get a client from another financial institution is not in a great disadvantage regarding the knowledge of customers information. It is possible to access a big

amount of information contained in social media and, therefore, a personalised product can be offered.

2. Unbanked-underbanked client: Entities that launch credit scoring initiatives (psychological test analysis, mobile invoice analysis, Facebook analysis, etc.). This is an alternative method that was not previously offered, which caused that solvent clients for certain financial operations to stay out of the banking system because they did not have a traditional payroll or a real estate asset.

3. Client from another kind of business: Thanks to the banks 'ability to extract information about customers' behavior, they may be able to create a new revenue stream allowing them to access other fields.

Risk management area focuses on:

- Scoring Industrialisation: It has a dual purpose, on the one hand, to increase the efficiency of the analyses by using alternative data, and on the other hand, the inclusion in the banking system of individuals who subsist outside it.

- Fraud control: Development of projects which aim to define patterns of customer behaviour regarding payments, with the aim of detecting situations of fraud as soon as possible.

Area of management of operations aimed to control the costs and to avoid risks in the internal operations:

- Cost Optimisation: Consist of analysing the commercial coverage of the branches network and design a new network that eliminates overlaps. Thanks to this, it is possible to optimise the number of branches without harming the coverage or the service to customers.

- Optimise the operation of certain critical processes: The big data identifies gaps and latencies, generates alarms and anticipates potential incidents. This improves response times and reduces costs caused by late or duplicated decisions.

2.3.2. Cloud computing

The cloud is a model that provides business and technology services. It consists of using internet servers that the user can access at any time and from any device connected to the network.

The cloud has great potential in the financial sector because it is cheaper than its traditional technological structure and provides a great flexibility in the use of information. The main advantages of Cloud computing are:

- Increased operational performance through the transformation of internal business operations.
- Cost savings thanks to the infrastructure optimisation.
- Facilitates innovation and improves the offer of products and services.

In 2012, BBVA began migrating all its corporate mail to the cloud and not to any cloud, but to Google's Gmail cloud (Heredia, 2015).

3. TRADITIONAL BANKING COMPETITORS.

As stated above, a new sector known as Fintech has emerged as a result of the crisis experienced by the financial sector worldwide. In a few words, this new mechanism is performing a regeneration of obsolete banking processes with the help of technology. The business structure of financial services is rapidly changing, making hard for a lot of traditional entities to keep up. Francisco González, president of the BBVA corporation, stated that "Many conventional banks are not going to make it" (González, 2015). These words refer to the challenge of the digital transformation of the financial world and the threat of new competitors that have emerged as Google, Apple, Facebook, Amazon, Paypal and Samsung.

These competitors combine technology and financial services, forcing traditional banks to invest in technology. Thus Rodrigo García de la Cruz and Antonio Herráir co-directors of the Executive Program in Innovation and Financial Technology (IEB) stated that "the great technologies have raised in several points the threat level that they suppose for the traditional entities when launching new services that come into direct competition with the banking business "(García de la Cruz and Herráir, 2015).

These new competitors have been divided in two different groups. Bellow, we will analyse six of the big technological companies and five Startups (Garcia de la Cruz, 2015):

1. Leading technology companies already established in the online sector: This first group is made up of Google, Apple, Facebook, Amazon, Paypal and Samsung. The organizations of these corporations are agile, they are in constant innovation and most importantly, they are able to generate more than clients.

2. Newly created companies, Startups, developing new digital business models focused on the financial sector or industry Fintech. This group consists of Loans P2P, P2P payments, currency exchanges, aggregators and wealth management platforms.

3.1. Leading technological corporations.

Jaime Guardiola, CEO of the Sabadell Group, the leading digital companies have become "A unique competitor" that "have managed to enter the market making customer´s experience better and more comfortable." "This encourages us to be better." (Guardiola, 2015)

<u>3.1.1. Google</u>

This company has a great amount of information of the users and of the new trends that could use in favour of its future clients. It finances all types of technological startups through alliances with technological companies.

<u>Google Financial Initiatives</u>

- Google Loans: Lends to small and medium companies in the US and the UK in order for them to purchase advertising space in its browser.

- P2P Loans: Google invested a 7% in Lending Club, a world leader in Crowdlending (a model that allows financing by the financial community without the need of services provided by a bank or financial institution), and has begun to lend through this platform to its more than 10,000 partners at a very competitive interest rate.

- .Broker Online: Google has launched in the US a free online broker that has more than 600,000 customers.

- Google Credit Card: The company is working on issuing its own credit card.

- Payments and money transfers: Google Wallet, which is a virtual wallet that was put into operation in 2011 and has evolved to the present day, allowing people to send money through Gmail email from the US and the UK. Currently, it also includes Android Pay, which is a creator of means of payment. This application is not yet in Spain since no Spanish bank supports the Android Pay nowadays.

- Mortgages: Google has launched an application that serves as a mortgage calculator, which lets you know how much it will cost you to own a property.

- Bank license: It has a bank card in the Netherlands that gives you the option to operate as a financial institution. This is not in use yet.

3.1.2. Apple

Although Apple has never shown interest in the financial sector, it seems that it is changing the pace with the launch of Apple Pay.

Apple Financial Initiatives

- Apple Pay: Since its launch, it has added more than 750 banks committed to offering its service and more than 200,000 self-service points following an agreement with USA Technologies. Apple Pay has processed 2 out of every 3 dollars paid in the US through contactless systems. In Spain, this application is provided by the Santander Bank.

3.1.3. Facebook

Due to the characteristics of its business model, Facebook could be a complementary instrument rather than a substitute for banking, but its recent movements seem to constitute a real threat to certain activities in the financial sector (García de la Cruz, 2015).

Facebook Financial Initiatives

- Facebook Messenger transfers: In 2015, in the United States, Facebook launched the possibility of sending payments between Facebook friends for free, using Visa or MasterCard debit cards, through its Facebook Messenger messaging platform. At present, this service is available in Spain and the rest of the Euro zone, but Facebook has not yet clarified how this service will be established.

- Electronic money entity: Facebook can already operate in Spain as an electronic money entity, which allows users to accumulate money on Facebook and use it to make payments and transactions.

- Financial agreements: Facebook is making alliances with online international payment service entities and through Smartphones, such as Transferwise, Moni techologies and Azimo, empathising on emerging markets and immigrant remittances.

- Partnerships: Facebook's first relationship was in 2012 with the collaboration of Australian bank Commonwealth Bank. They launched an application to make payments through social networks. Further agreements were reached later with banks such as ASB Bank (New Zealand) and ICICI Bank (India) to give direct access to their online banking services.

3.1.4. Amazon

In the case of Amazon, the perceived satisfaction of its customers after a simple search or purchase process makes it one of the best platforms we find worldwide.

Amazon Financial Initiatives

- Loans: Through Amazon lending, loans are offered to their sellers on the net.
- Payment platform for all purchases that originate on your website.
- Credit or debit cards through Amazon.com, Rewards Visa Card (Chase) and Store Card (Synchrony Bank).
- Companies credit lines through Amazon Corporate Credit Line, for corporate or institutional consumers.
- Amazon Web Services (AWS): This area gives amazon a great potential in the medium term to become a great platform for global financial products and services, both own and third parties products.

3.1.5. Paypal

Its business model consists in the collection of commissions for its operations.

Paypal Financial Initiatives

- Paypal.Me: In December 2015, the company launched in 18 countries including Spain Paypal.Me, a tool whose function is to make payments between people without any commission, becoming an excellent channel for small payments between individuals.
- Means of payment: Paypal is an intermediator of payments, with a daily volume of more than 7 million dollars in 25 different currencies.
- Credit Entity: It currently has a banking license in Luxembourg, from where it operates to the rest of the European Union. It also carries out deposit and financing activities, issuing electronic money, as well as issuing and managing payment instruments such as cards.

3.1.6. Samsung

After the creation of Apple Pay and Android Pay, Samsung could not stay behind and just launched Samsung Pay, a mobile payment service that will be compatible with most devices in the world.

In addition, its success can be based on the integration of the use of different technologies, such as Near Field Communication (NFC), fingerprint touch sensor and a new technology called Magnetic secure Transmission (MST).

In Spain two large banks such as Sabadell and Caixabank have Samsung Pay.

3.2. Startups Fintech.

Although there is no formal definition of what Fintech is, the most widely accepted one is what it is described as emerging financial services that use information technology applicable to financial services.

Under this fintech category, there are a number of business models related with banking, payments or financing systems. These business models can be classified as (García de la Cruz, 2015):

3.2.1. Crowdlending P2P

The beginnings of this type of loans should be found in the Crowdfunding, where the consumers made economic contributions to projects in exchange for some non-monetary rewards.

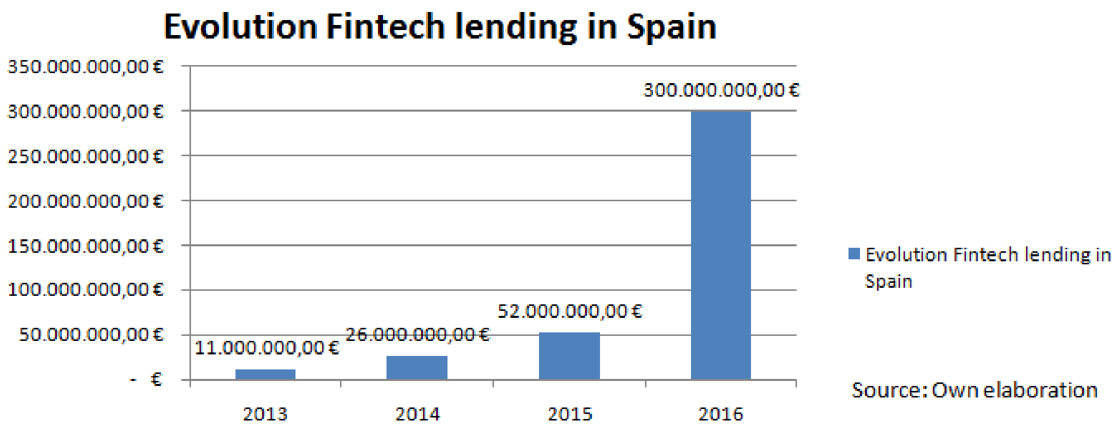
The main crowdfunding platforms that operate today can be classified into three large groups: crowdfuding of reward and donation, equity crowding and ultimately crowdlending, where P2P loans are included.

The crowdlendig or P2P loans is a financing model that takes place when a person needs money to carry out an activity and goes to a specialised platform to raise these funds. The interest rate set for the return of the money is previously established. These loans compete directly with the core business of the bank, which consists of the collection of deposits and lending.

This phenomenon has experienced considerable growth in recent years. This activity has been recently regulated by the government of Spain due to the existence of a legal void that prevented the evolution of this sector. The law to promote business financing provides a legal framework that gives certainty to this type of transactions "the new law marks a before and an after in the sector and takes a step forward in the matter of alternative financing, because it orders the sector, brings transparency and is overall an improvement from the point of view of the legal certainty and security of operations "(Borrell 2017).

In Anglo-Saxon countries, it is already a fact, as shown by the American Lending Club, which has accumulated loans for more than 10 billion dollars.

Figure 4: Evolution Fintech lending in Spain



Own elaboration through data obtained from Finanzarel.

This graphic (*Figure 4)* shows the Fintech lending evolution in Spain and how they are increasing their volume of direct loans through this platform.

3.2.2. P2P Payments

Today, more than 500 million consumers use their mobile phone to make their purchases, which means about 180,000 million euros in payment in total. This opens one of the toughest battles to be done with this market segment, where there is not only a large volume of money at stake, but there are also large margins. In 2011, Visa created an application through which cardholders could make P2P payments via mobile. "The rapid adoption of new technologies and the growing consumer demand for more flexible forms of payment are changing the way we pay" (Ayliffe, 2011).

3.2.3. Currency Exchange P2P.

Nowadays, we find many technological Startups that directly compete with the financial entities in the currencies exchange market. The most noteworthy in the market are Kantox, Transferwise and Ebury. According to Philippe Gelin, CEO of Kantox, "Our pricing system is transparent and more competitive than the banking sector. Banks usually include a hidden commission, just like foreign exchange brokers, something that does not happen in Kantox" (Gelin, 2016).

3.2.4. Aggregators.

They are characterised by managing their users finances, organising their accounts, giving advice on how to save, with tools of budget and control of expenses. This makes the customer to move away from his bank. Those that currently stand out in this sector are Mint, Knab, Level Money, Fintonic and Ahorro.net.

3.2.5. Property Management.

Personal and private banking have new competitors in Online-Investment Advisers platforms.

Companies like Wealthfront, Betterment, Nutmeg allow investors to choose where to invest their money, under what strategies, amount and conditions. Individuals and companies can access a quick and easy online financial advice channel based on complex algorithms. "As equity firms and their managers face the convergence of different market dynamics, including greater competition with FinTech, they need to progress in all elements linked to their digital capacity to demonstrate that their role Continues to be relevant to customers, now attracted to highly technological competitors "(Bose, 2016).

4. THE FINTECH PHENOMENON.

The financial industry is facing an intense process of structural change, moving from an industry based on analogue processes to digital business models required by the new information age.

Digital technology has reached the financial industry to transform it, not only by buying new technologies but also by focusing the change towards the creation of digital products and services.

These new digital services or also called technological players are mainly Startups. Those focused on the financial sector are called Fintech.

The low cost and high capacity of these, together with the high penetration of technology in society have allowed its breakthrough in the financial industry. In this sense, the Fintech Startups have used two strategies to enter the market (Bueno, 2015):

1. Serving the final customer completely autonomously.

2. Establishing alliances with financial institutions, thus having access to their distribution networks, data, licenses etc.

The studies carried out on the current banking situation and the new established channels show that the place where the customers are disputed is not the branches but the digital world.

Fintech establishes itself as a sector composed by many companies focused in particular on a financial product or service (payments, loans, foreign exchange, personal finance...). One of the main premises of the Fintech is to improve these services from a digital environment, improving the user experience and promoting transparency. In conclusion, these Startups are created around the new business model that is the customer, thinking about the clients and how to meet their needs. "Fintech companies have a culture focused on innovation, equity, transparency and are always focused on the customer" (Gelis, 2016).

4.1. Causes of irruption.

At this point, we will develop more specifically the causes that have determined the strong investment in financial technology or Fintech. We will enumerate several factors (Rivera, 2015):

- Digital technologies have lower costs. Consequently, they have broken into the financial sector, digitalising products and services. Digital technologies are increasingly cheaper, and small technology companies can access the Fintech world that was previously only accessible for large corporations.

- Another fundamental point is that the population's lifestyle has been digitalised . This is also influenced by the so-called "digital natives”, that are that part of the population that was born in the information age.

- The global financial crisis that took place in 2007-2012, broke the public's confidence in financial institutions and pushed up technology companies such as Apple and Google.

- "Banking is not somewhere you go, but something you do": Banking is no longer a place to go but it is conceived as an activity that can be done.

- The innovation of certain technologies is a threat to traditional banking, according to Francisco González president of BBVA "the Fintech wave has become a tsunami”. "This tsunami will change the market with an unknown speed and virulence and where the most agile, dynamic and innovators, will emerge as new industry leaders” (González, 2015).

4.2. Fintech in Spain.

Spain is behind Europe and the United States in the market, but we can say that our country is evolving. Driven by foreign investment, the financial services technology industry has grown rapidly in Spain in recent years, and developments are expected to remain positive.

Spain is becoming the point of initiatives and projects related to the Fintech sector. This is due to many circumstances that favour the establishment of these companies in Spain and that facilitate their global expansion, fundamentally to Latin America.

Spain has a unique opportunity to position itself as the new Fintech financial hub for the Peninsula and all Latin American markets.

Thanks to the resurgent entrepreneurial movement, together with the amount of available financial services, Spain can be a fertile ground for these new leaders in the future of financial services.

According to data provided by the Spanish Association of Fintech and Insurtec (AEFI) there are more than 200 Fintech companies in Spain and these numbers are expected to reach 400 by the end of 2018. Only in 2016, the sector raised 250 million Euros in investments, that although is not an excessive figure compared with Germany or the United Kingdom, denotes the growth of Spain in the sector.

In Spain, there are several factors that make it a good place for Fintech to be developed. These factors are as follows (Rivera 2015):

- Large Spanish corporations in the financial and telecommunications field are based in Spain and have been expanding their businesses to Latin America for decades.
- The existence in Spain of very well-known business schools such as the Institute of stock market studies, which integrates in its training courses on innovation and financial technologies.
- The existence of investment funds that dedicate their resources to the fintech sector in Spain.
- Spain has become the core of Latin finance. The European office of the Inter-American Development Bank moved from Paris to Madrid in 2012.

Although the starting point is good, the sector claims the need to adapt and create legislation that regulates financial transactions through the Fintech, giving certainty to the user and those Startups creators who many times decide to operate outside Spain due to the legal comfort they find in other countries. "To grow, Fintech need a stable regulatory environment and the rules of the game should be defined. That's what regulation provides. This would attract new investments and companies to Spain and would favour the national fintech in order to stay here "(Equal, 2016).

Within the Fintech Spanish market, we can highlight the boom that the Startups have dedicated to crowdlending. This phenomenon is explained by the approval of the Spanish Promotion of Business Financing Act, 5/2015 of April 27.

This law has the objective of making bank financing of SMEs more accessible and flexible, as well as advancing the development of alternative means of financing, setting the regulatory basis for corporate financing, or also called non-bank financing in Spain (Crowdfunding).

This Act regulates this phenomenon with the purpose of clarifying the regulation applicable to these platforms and enhance this activity giving an adequate protection to the investor.

In addition, the Act establishes requirements for authorisation and registration of these platforms at the national commission of the securities market (art 53 and 54 Act 5/2015 of April 27).

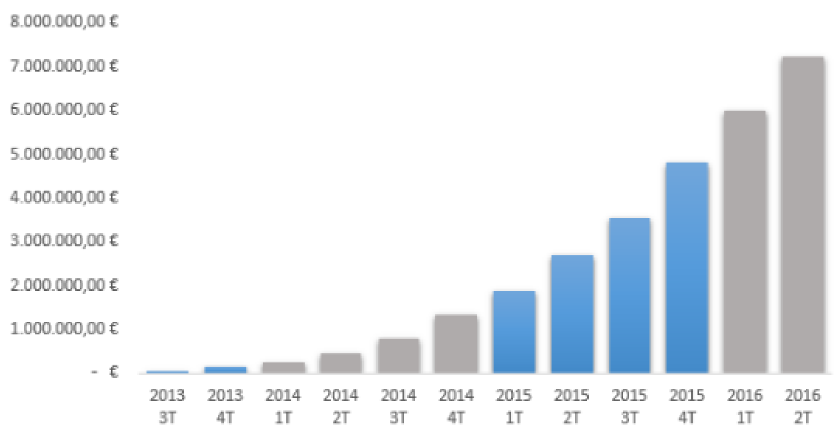
As regards its operational activity, the regulation is aimed to ensure the neutrality of participatory financing platforms in their relationship between investors and promoters. Platforms must carry out their activity in accordance with the principles of neutrality, diligence, Transparency and in the best interests of its clients (art 60 law 5/2015 of 27 April). It should also be noted that the Act also contains a ban on offering services such as financial advice, which would bring the platforms closer to other types of entities already regulated and supervised. Finally, the Act only reiterates the prohibition of taking funds destined to make payments in its own name on behalf of clients, without having the mandatory authorisation from the payment institution. The Act is basically intended is to minimise (not eliminate) the risk faced by investors and developers.

4.3. Fintech example.

Arboribus
Conectando empresas e inversores

Arboribus was created in 2012 by Josep Nebot and Carles Escolano. It was the first platform in the Spanish crowdlending, and for now, it only works in Spain although it might expand to other countries. The first credit was granted in July 2013 and since then its growth has been unstoppable. A clear example of this is when in 2015, the company ended the year with a total lent amount of 4,866,840 €. In the future Arboribus expects to continue increasing the amount of euros borrowed as more and more companies are willing to incorporate crowdlending. According to Carlos Escolano, "companies choose to incorporate crowdlending into their financial pool and diversify their sources of financing, thus reducing their dependence on banks. Our model offers great advantages over bank loans. However, we do not intend to overthrow banks but coexist for the benefit of companies. In the next two years our goal is to reach 50 million euros in loans to companies" (Carlos Escolano, 2017).

Figure 5: Loan amount Arboribus



Source: Arboribus.com

This graphic (*Figure 5*) shows the evolution of the amount of lending carried out by Arboribus.

Arboribus focuses its activity on loans to SMEs, connecting investors with companies, seeking funding outside the usual banking channel. Even so, not all companies are eligible for funding, in fact those are granted with a loan are those that would also be granted a loan under the traditional bank requirements and procedures. This is important as it means that Arboribus is not the last resort for insolvent companies or with a high risk of insolvency, but an alternative source for those who have passed the risk analysis and prove to have economic solvency.

The companies that are eligible to be financed by Arboribus must comply with a series of requirements that reduce the risk of ´non-payment´, although it is important to bear in mind that there always exists risk in these kind of transactions.

In order to start an auction, the applicant company must be legally incorporated as ´S.A.´(Spanish legal terminology for Anonymous Society) or S.L. (Spanish terminology for Limited Liability Society or Corporation) and be able to demonstrate at least two years of commercial activity (which means experience in the market). The investor knows at all times who is lending its money, since the data is public and it is possible to require the candidate company to directly clarify those issues that have not been completely specified. Below, there is an example of a listing in an open auction.

Figure 6: Listing in an auction.

Source: Arboribus.com

Apart from the valuation made by Arboribus, the amount of documentation provided is so extensive and detailed that the investor has enough data to decide whether or not to place his money in the submitted project.

Arboribus is a mediator between the company and the investor. In the event of a ‘non-payment´ scenario, Arboribus is able to claim the owed amount of money on behalf of the investors-users who have entrusted their money to the borrowing company. However, it cannot guarantee that in these cases the amount invested will be completely recovered the risk always exists. The investors must seek to diversify their portfolio to the extent that if a loan is unsuccessful, the profitability obtained by the other investments allows them to absorb that loss.

The net return on investment, discounting the amount charged by Arboribus, ranges from 4% to 6% per annum. The duration of loans granted is between 12 and 36 months. It should be noted that the loans do not have a grace period and that the payments are made on monthly basis, so the investors start to recover their money one month after the loan has been formalised.

Arboribus charges an opening fee once the borrower accepts the loan that has been offered. This is the only fee that Arboribus charges the borrowers for formalising their loan and transferring the money. The rate depends on the term of repayment of the loan and whether the borrower is a member of a cooperating entity or has already obtained a loan with them previously.

Figure 7: Arboribus fare for companies.

Arboribus fare for companies

Term in months	Up to 6	7 to 12	13 to 18	19 to 24	25 to 36	37 to 48	49 to 60
Companies	1,25%	1,25%	2,00%	2,50%	3,00%	3,50%	3,50%
Companies associated with collaborating entity	1,00%	1,00%	1,50%	2,00%	2,50%	3,00%	3,00%

Own elaboration via data obtained from the Arboribus.com

When investors receive the full payment for each monthly loan installment, Arboribus applies a management fee of 1% per annum on the outstanding capital. This fee consists of 1% per annum (0.08% per month) applied to the principal amount of the loan pending amortisation at the beginning of the monthly period in which the payment is made.

Finally, it also needs to be said that Arboribus does not have the status of investment Services Company or credit institution and is not affiliated with any investment guarantee fund or deposit guarantee fund.

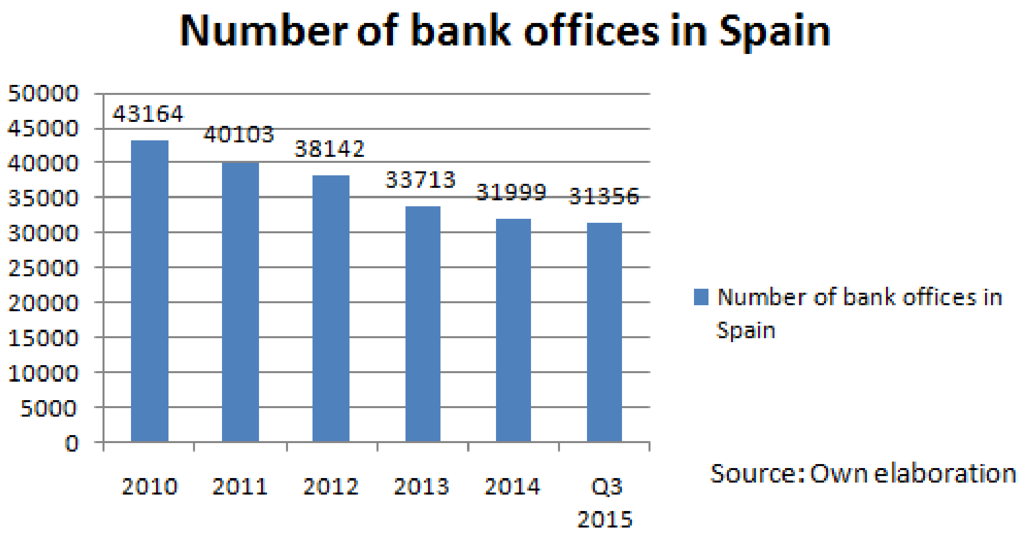
The requests for financing are not subject to authorisation or supervision by the National Securities Market Commission (CNMV) or the Bank of Spain, therefore the information provided by the promoters on the projects has not been reviewed by these public organisations.

5. HOW HAS TRADITIONAL BANKING REACTED TO THIS NEW TECHNOLOGICAL REVOLUTION

Entities, branches and clients have changed a lot after the real estate crisis and the strong bank restructuring. Customers do not need anymore to have a branch by their place and thanks to the digital boom they have the service available 24 hours a day. Mobile banking, online banking and the use of newly equipped ATMs have seen a spectacular growth.

The processes of integration of the banking entities, together with the economic and social situation of the country, have given rise to a quite different picture with respect to how was the sector a few years ago.

Figure 8: Number of bank offices (branches) in Spain



Own elaboration via data obtained from the European Central Bank (ECB) and the Bank of Spain.

In the graph (*Figure 8*) it can be appreciated how a lot of banking branches have closed in our country. According to data from the European Central Bank, in 2010 Spain had 43,164 branches, 40,103 branches in 2011, 38,142 branches in 2012, 33,713 branches in 2013 and 31,999 branches in 2014. In four years, one out of every four branches was closed. Overall, the number of branches has decreased by 25.9%. At the end of the third quarter of 2015, the number of branches was 31,356, according to data from the Bank of Spain.

In Spain, entities have started a process of global transformation in which a lot of banking procedures have been examined, including internal business processes and business processes, business models, distribution channels, and even the different ways in which they relate to their customers.

In conclusion, the pillars of banking transformation are: The new branch, the Online banking, the mobile channel.

5.1. The new branch

Currently, there is a global strategy of digital transformation, which also affects the banking face-to-face procedures.

Within these strategic projects, a deep transformation of the traditional procedures is being considered, always depending on the degree of progress of the entity.

This transformation affects 3 main areas (Rodríguez, 2015):

- Customers, where there are needs regarding:

1. Customer knowledge: The clients have to be identified meaning that all their digital contact data (email and mobile phone number) must be available in order to facilitate the digital relationship.
2. Models of customer behavior and segmentation, which allow to know more in depth the "digital journey" of the client, that is, its route through all channels of the entity.

- Model of commercial relationship, which is going to be determined by the knowledge of the client.
- Distribution model based on the integration of physical and digital channels which must have maximum efficiency and adaptability to all customer segments.

The branch will have to integrate this strategy to have a combination of channels that facilitates the relationship with the clients, in order to obtain personalised advice that will increase their finances value, and will contribute to increase the profitability.

However, all the branches or entities will not be the exactly the same. Everything will depend on the area where they are located, but always aiming to cover a great amount of specialisation depending on the type of customer. The different office models that are being tested are:

- ´Quick´ Offices: Exclusively dedicated to transactional operations where agility and immediacy are key values. A clear example of these can be found in Bankia Ágiles offices, that has more than 140 branches and also the fast service branches of Sabadell Bank.

- Commercial Offices: Larger spaces dedicated to getting closer to the client, sharing information of interest that allows a very personalised advice. An example of this model are the Mega Offices of Banco Santander and the Dual Office of Banc Sabadell.

- Specialised offices: By typology of clients, such as private banking or business banking. Today, there are specialised offices for startups, such as Banco Santander, Caixabank or Banc Sabadell.

- Emblematic Office or Flagship: Aiming to enhance the brand, image and corporate values of the bank, as well as making possible for customers to know what is the bank doing in benefit of the society and in order to improve. An example of this model is the BBVA office in Madrid.

5.2. Online banking

Traditional banking in comparison to online banking is characterised by its physical presence, which makes cash transactions possible and provides a service to clients who lack or have a poor knowledge of the new ICTs, which are usually people of an advanced age or a low socio-cultural class. Although online banking has existed since 1998, its use was minimal, producing its true growth with the digital revolution and the banking transformation.

Online banking was born with the expectation of cost minimisation and income maximisation, based on a self-service idea. In this way, transactions timing is improved, human errors are reduced and, more importantly, the operating costs of online banks are reduced. To these advantages it must also be added the improvement regarding temporary and geographical limitations. According to Bankia online channel director "The clients now wants to choose how, when and where to interact with their bank" (De la Rubia, 2016).

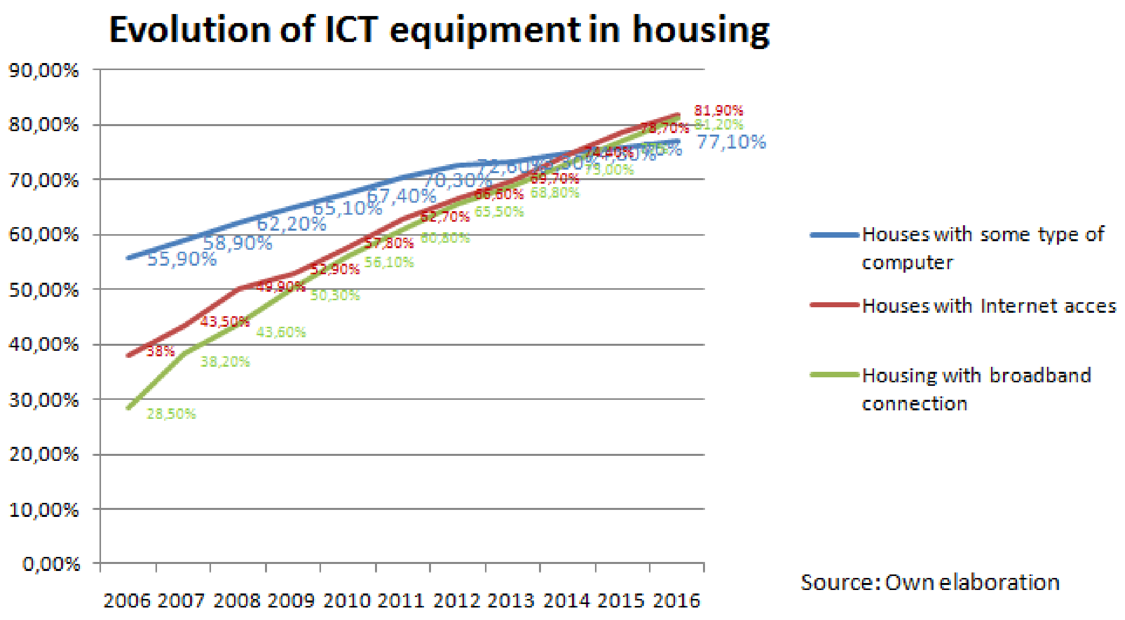
The impact of electronic banking has transformed the business model of the banking sector. The transmission of information is much more agile and transparent, security in traditional infrastructures has increased and means of payment have been transformed.

Banks know that the future of their services goes through the virtual channels, and, nowadays, we can say that most of the costumers are already used to online banking. In Spain, most financial institutions offer this type of service. The preferred one in the country is ING Direct, which has no competitors due to its reliable service according to data published by the Spanish Banking Association (AEB). The reasons for success are found on their zero commissions policies, in their fixed-term deposits with above-average returns and in their totally virtual operation.

There are a number of determinants in the development of electronic banking (García, 2015):

- The number of households with an internet connection.
- The number of internet users by age.
- Trust in the network for banking operations.
- Population and areas where potential clients reside and their access to the network of offices.
- The offer of products and services of the banking competitors.

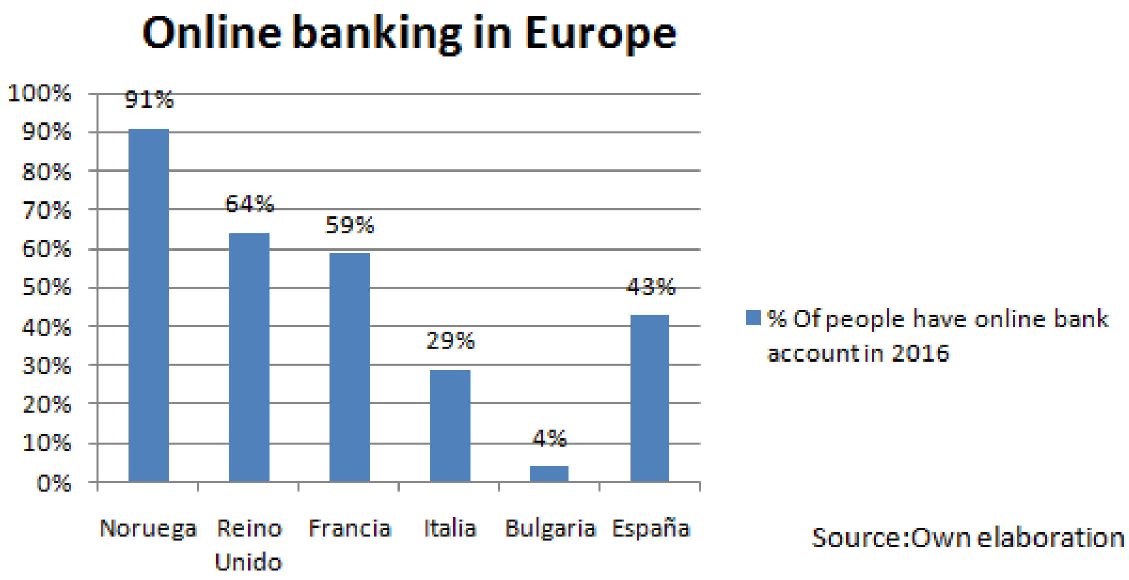
Figure 9: Evolution of ICT equipment in housing



Own elaboration via data provided by the Spanish National Statistics Institute.

According to the data provided by the graph (*Figure9*) of the INE (Spanish National Statistics Institute), 81.9% of Spanish households have access to the internet network, compared to 78.7% the previous year. There are already more than 13 million homes with access to the internet network.

Figure 10: Online banking in Europe



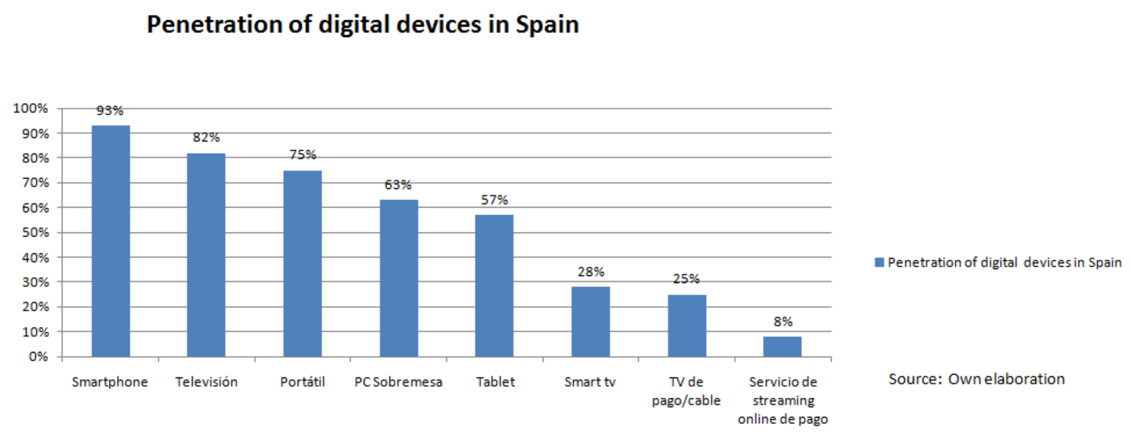
Own elaboration via data provided by Euroestat. Age range in between 16 and 74 years who have access to their online accounts..

According to Eurostat (*Figure 10*), 43% of Spanish people between 16 and 74 years of age accessed their bank account through the network and were regular customers of electronic banking during 2016, compared to other countries in the Eurozone such as Norway (91% users) and Bulgaria (4% users), the country with the lowest number of users.

5.3. Mobile banking

Mobile phones are becoming the point of contact for a great diversity of products and services, since these devices are the access tools preferred by the majority of customers. In the 21st century, Smartphones have become fundamental in our day to day life. In Spain, Smartphones represent the 93% of digital devices and services, as shown in the following graph (*Figure 11*).

Figure 11: Penetration of digital devices in Spain

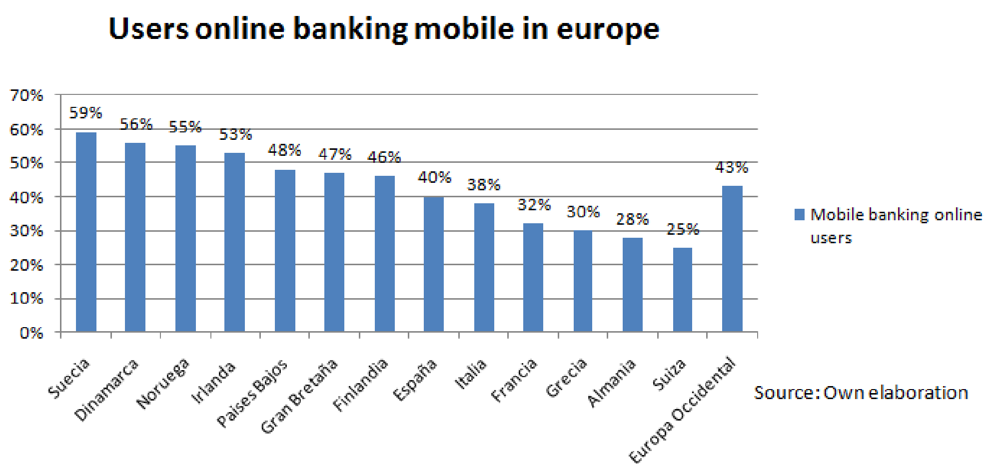


Own elaboration via data obtained from TNS Connected Life (January 2016).

Therefore, it is not surprising that companies, and particularly financial institutions, want to be well positioned to take advantage of the opportunities offered by these permanently connected consumers.

In the financial sector, mobile phones offer new ways of relating to the customer, which allow a great improvement on recruitment and customers loyalty and improves customer retention in the business.

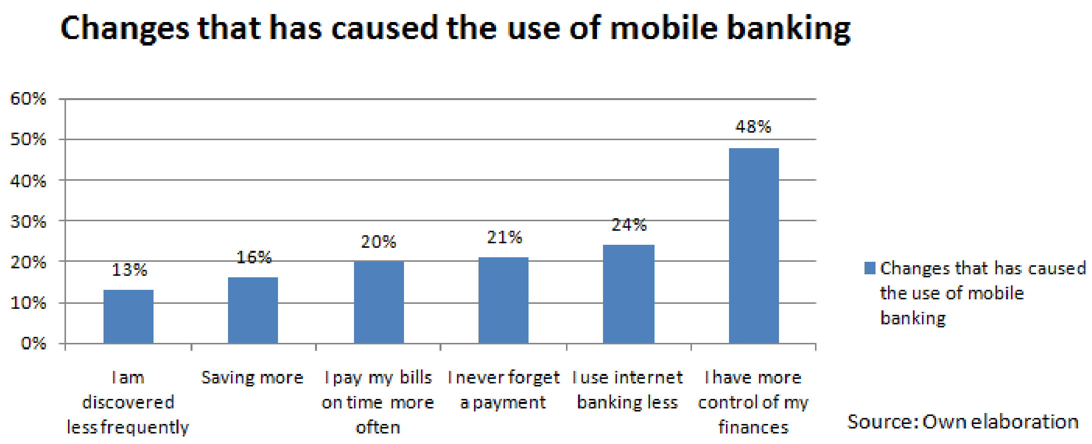
Figure 12: Users of mobile online banking in Europe.



Own elaboration via data obtained from the EY Global Consumer Banking Survey 2016.

As it is shown in the graph (*Figure 12*), in Spain, 40% of the population are users of mobile banking services. European users use this type of banking to manage day to day money transactions.

Figure 13: Changes that has caused the use of mobile banking in 2016.



Own elaboration via data obtained by ING 2016.

In the graph (*Figure 13*) we can observe the major changes that the use of mobile banking supposed for users in Europe in 2016. For some of them, mobile banking makes them feel they have more control over their finances (48%), some of them use less internet banking (24%) and others claim that thanks to mobile banking they never forget to make a payment (21%).

Focusing on Spain, if we analyse the large groups in the sector, we can see that in 2015, BBVA led mobile banking with 7 million users, followed by Banco Santander with 5.5 million users, Caixabank with 2.6 million users and ING with one million. The remaining entities still had not reach 1 million users by the end of 2015. In what follows, we will provide more details about these three entities.

BBVA

BBVA's mobile banking application covers information and accounts, cards, securities, deposits, funds, plans, saving insurances, portfolios, SICAVs, securities, loans, mortgages and risk insurances. It also offers an application with which the client can contact a manager assigned to him.

With the application, BBVA Compass allows the client to open a mobile bank account from his smartphone. It offers a great comfort to the clients, who are able to manage their time and to avoid displacements.

OPENBANK

Openbank is Santander´s Group online banking. It started to operate in mobile banking in February 2011.

It currently offers an application which allows users to check the global position and balances, to review their account movements and cards, and to carry out transfers. In addition, it also allows customers to consult and to realise buy-sell of securities stock. It should be noted that all openbank applications are native, this means that they have an exclusive development for each online platform, which allows clients to use all the functionalities of the mobile.

CAIXABANK

The entity was one of the first ones to start the mobile banking service in Spain. It should be noted that La Caixa is the only financial entity in the world that has its own application store, CaixaMóvil Store, with more than 40 different applications, all free and adapted to different mobile operating systems. This entity was also pioneer in the “contactless" payment system.

Among Caixabank's most notable apps are Transfi, application created to share and divide expenses between users, as well as facilitate the transfer of money between them, using QR codes.

6. CONCLUSION.

Following this study, we observed that there are two fundamental streams within the financial environment: Fintech and traditional banking.

But should we understand them as competitors or as a new opportunity for banking?

The great digital revolution gave rise to the Startups dedicated to the financial sector (Fintech). Its splendid beginning came due to the world financial crisis that caused the distrust of customers in traditional banking, as they considered it as a main cause for the recession. The reaction of the bank soon arrived, as it saw a part of its business in danger and began to modernise itself by introducing technological innovations in its services.

From the perspective of financial institutions, the approach that many adopt is the collaboration with these financial Startups, offering these services to their customers. With this, the main question can be answered by saying that for the entities this has been more an opportunity rather than a threat.

The transformation of banking is educating the client to be more autonomous when it comes to managing the contracted services. This will inevitably lead to the disappearance of the majority of bank branches and will entail a great reduction of costs for the entities in human resources, capital and furniture.

How does the future look like? Only by observing this revolution, it is not crazy to think that in the future we may face the complete disappearance of physical money (cash). Countries such as Denmark and Sweden have already applied the elimination of cash in certain establishments and they will progressively end up with the coins and banknotes in circulation. The main objective of these countries is to eliminate the administrative and financial costs that the handling of cash supposes. This phenomenon is being implemented through the application of all financial technologies arising from the digital revolution, such as Mobile-pay, which becomes an indispensable tool for people in the above mentioned countries. In these countries, 95% of retail purchases are already made without cash and the total number of banknotes and coins in circulation only amounts to the 2% of the GDP. Even donations in church are given through the mobile nowadays.

Although what happened in the Nordic countries may seem unbelievable, it is a reality that sooner or later will expand throughout the world.

Therefore, we can say that Fintech is just at the very start of its implementation and it is indisputable that (only in a few years of intense activity) has managed to become a predominant trend in the macro-environment business around the world.

However, it will be necessary to wait and see how the regulation, specialisation and changes in the habits of consumption evolve during the next few years. Nevertheless, it is unquestionable that this revolution in the financial sector will lead the traditional banking to new standards of quality of service where the great beneficiaries will be the customers.

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